**38 Limits exploration (using the TI)**

X is getting closer to zero pattern for y values…

Example one ---both values from the left and right came to the same value….we have a limit.

Example two –on value from the left and right are not equal, then we have no limit

U**s**e the term infinity and beyond rather than ∞

For piecewise functions, add the functions…..use “test” to get the inequality symbols. Define domain with ( ) after each function.

When in set table functions….”ask” makes the table

**131 Fundamentals Theorems of Calculus Integration and Differentiation Putting It All Together**

Copy the program from Dollie’s calculator using the link program. RAM (Rectangular Approximation Method) breaks the item under the curve into rectangles….

Elongated s means adding up rectangles

Update calculator operating system 2.50 mp link—send os

Area of the curve can be a function of x

Anti derivative and integrals

**268 Teaching Limits**

What happens at x = 2

F(x ) is near -3

What happens as s approaches 2

Parabola is concave up or concave down

Asymptopes

What happens at x =1

What happens near x = 1

As x approaches 1, g increases without bound, or g approaches infinity.

As x increases without bound, go approaches 0

Graphically, numerically and algebraically

Area Problem

What is the area of the region….the number of rectangles increases without bound.

Tangent line problem

Slope of the tangent line ….slope of the secant line approaches the slope of the tangent line

Augustin-Louis Cauchy First to define limit

Karl Weierstrass Definition of a Limit at a Point…..

**340 President NCTM National trends in standards and assessments**

Lifetime achievement awards followed by national trends update. Govenor’s commission wrote standards with no input from professional organizations. After media reported that educational professionals were not included, NCTM and other organizations were invited to discussions. Standards from the governors group matches NCTM’s to some degree. The next step there was a call for assessments from test designers. The govenor’s commission is in the process of selecting from those designs for use in their states…states who do not select one of these test will be labeled as “promiscuous” and encouraged to select from this set of assessments.

**375 What is an integral? Logrithims** Speaker from Titusville, FL

The area under a curve---Geogebra open source program…students can download

Email her to get step by step presentation

Geogebra.org—free but not for commercial use

Reiman sums Graphf(x ) = a = 1 begin slider with minimum of .1. number of rectangles is slider 1 to 20 increment

Lower Sum (f, a, b, n)

Member of class “Ken” states that sketchpad is much better…..right Reiman sum

What is special about the number 2.81?

Get lessons from Sketchpad site.

Logrithithic graph is produced by the ,,increasing and concave down. Natural log

Derivative is a rate of change

For exponential derivatives, you get an exponential

Derrivative of

Numeric ,tables, graph, discussion---try to present all ways

Email;

[www.orletsky.lyn.brevardschools.org](http://www.orletsky.lyn.brevardschools.org)

**436 Using Derivatives to Investigate Integrals**

A lesson study: characteristics include a bell ringer, a practice problem, and an assessment problem.

The bellringer problem presented a table, and asked students to produce a graph

Given a graph of the derivative, sketch the graph of the original function

The video showed students working in groups to solve problems

The discussion and math vocabulary were very noticeable. Materials needed would be markers and large paper to post group work

Be sure students are able to indentify …anti derivatives based on a graph

What type of function has a straight as a derivative

What type of function has a parabola as a derivative

What type of function as a sin-like curve as a derivative

The concept of lesson studies is worth further investigation. Ask Jennifer to look into this topic for use across curriculums.

I & P curriculum

**507 It’s their Web2.0 world….you’re just teaching in it.**

NCTMShared-mathmath

Nctmonline.ning.com presenters will post on website

Teaches in Ontario, CA at Appleby College

Wall wisher….used as a collaborative publishing—replaces

Google docs—shared access to documents

Wiki

WolframAlpha works algebra and calculus including integrals

Make a video presentation explaining your steps for this problem…use comic life

Mind map is collaborative—can be printed

Geogebra wiki has many posts

Art of problem solving…student driven discussion board

Polymath projects

Faculty Collaboration---Facebook students use it more regularly than email

Classroom 2.0

Teachers on the web video conferencing

Twitter—professional, not many students use it

[www.BetterLesson.org](http://www.BetterLesson.org)

**577 Lights! Logs! Lines!** Janice L Krouse [drouse@imsa.edu](mailto:drouse@imsa.edu)

AP curriculum for 3 semesters in Chicago area boarding school

Writing in math---No instruction…this was strictly discovery. Not very informative

**641 Written Formative Feedback: Building Problem solving & Mathematical Understanding**

Education Northwest

Refined under Eisenhower Sonsortium

Components: rich problem solving tasks, formative feedback guide professional development and online communication tools

* Conceptual understanding
* Procedure
* Insights
* Calculations
* Communication

Summative Assessment is a measurement of accomplishment attained by a student

Formative assessment is any assessment that provides information to the teacher or the student about the student’s performance, and that can be used to adjust practices

Formative feedback identifies a difference between a student’s performance and the ideal performance, but also provides some instruction on how to change the performance.

**701 Mathematical Masterpieces Gary Rubinstein** History—presentation on u-tube

Euclid’s Elements III

Euclid’s Elements I---Pythagorean Theorem

Ptolemy calculates exact values of sine (100AD)

**741 Using a Computer Algebra System(CAS) to Promote Engagement and Access to Algebra for All Students**

Larry Osthus email: [osthus@mathaddsup.com](mailto:osthus@mathaddsup.com) website: [www.mathaddsup.com](http://www.mathaddsup.com) for presentation information. This tool “levels the playing field” for struggling math students. It becomes an extender for the serious college bound student, and a stabilizer for the college bound student. A crutch helps you to get along until you are strong enough to get along without it.